

What is claimed is:

1. A method, comprising the steps of:

5 a) having a cellular module respond to a cellular communication signal indicating a time-stamp, by providing a trigger pulse derived from the data component of the cellular communication signal, and also by providing information indicating a time-mark relating the trigger pulse to a universal time;

10 b) having a main module, with access to a clock that provides a signal indicating local time, respond to the information indicating the time-mark;

c) communicating the trigger pulse to a timing register coupled to the main module, the communicating being performed via a special hardware path that provides the trigger pulse without substantial random delay;

15 d) having the timing register respond to the signal indicating local time, and also respond to the trigger pulse, by holding information indicating, in local time, when the trigger pulse is received by the timing register; and

20 e) having the main module access the timing register and so obtain the time when the trigger arrives, and further having the main module determine the difference between when the information indicating the time-mark arrives and when the trigger arrives.

25 2. The method of claim 1, further comprising the step of having a frame counter generate the trigger pulse when the frame counter identifies a new frame in the cellular communication signal.

3. The method of claim 1, further comprising the step of having

a time slot counter generate the trigger pulse when the time slot counter identifies a new time slot in the cellular communication signal.

4. The method of claim 1, further comprising the step of having a data bit counter generate the trigger pulse when the data bit counter identifies a new data bit in the cellular communication signal.

5. The method of claim 1, wherein the main module is a global positioning system (GPS) module, responsive to a GPS satellite navigation signal.

6. An apparatus comprising:

a) a cellular module, responsive to the cellular communication signal indicating a time-stamp, for providing a trigger pulse derived from the data component of the cellular communication signal, and for providing information indicating a time-mark relating the trigger pulse to a universal time;

b) a main module having access to a clock that provides a signal indicating local time, the main module responsive to the information indicating the time-mark;

c) a timing register, responsive to the signal indicating local time, and further responsive to the trigger pulse, for holding information indicating, in local time, when the trigger pulse is received; and

d) a special hardware path, for conducting the trigger pulse from the cellular module to the timing register;

wherein the main module is coupled to the timing register so as to be able to access the timing register and so obtain the time when the trigger arrives, and further wherein the main module

includes means for determining the difference between when the information indicating the time-mark arrives and when the trigger arrives.

5 7. The apparatus of claim 6, further comprising a frame counter, and wherein the trigger pulse is provided when the frame counter indicates a new frame.

8. The apparatus of claim 6, further comprising a time slot counter, and wherein the trigger pulse is provided when the time slot counter indicates a new time slot.

10 9. The apparatus of claim 6, further comprising a data bit counter, and wherein the trigger pulse is provided when the data bit counter indicates a new data bit.

15 10. The apparatus of claim 6, wherein the main module is a global positioning system (GPS) module providing functionality for operation as a GPS receiver, the main module further responsive to a GPS satellite navigation signal.

11. A system comprising:

20 a) a cellular module, responsive to the cellular communication signal indicating a time-stamp, for providing a trigger pulse derived from the data component of the cellular communication signal, and for providing information indicating a time-mark relating the trigger pulse to a universal time;

25 b) a main module having access to a clock that provides a signal indicating local time, the main module responsive to the information indicating the time-mark;

c) a timing register, responsive to the signal indicating local time, and further responsive to the trigger pulse, for holding information indicating, in local time, when the trigger pulse is received; and

5 d) a special hardware path, for conducting the trigger pulse from the cellular module to the timing register;

wherein the main module is coupled to the timing register so as to be able to access the timing register and so obtain the time when the trigger arrives, and further wherein the main module  
10 includes means for determining the difference between when the information indicating the time-mark arrives and when the trigger arrives.

12. The system of claim 11, further comprising a frame counter, and wherein the trigger pulse is provided when the frame counter  
15 indicates a new frame.

13. The system of claim 11, further comprising a time slot counter, and wherein the trigger pulse is provided when the time slot counter indicates a new time slot.

14. The system of claim 11, further comprising a data bit  
20 counter, and wherein the trigger pulse is provided when the data bit counter indicates a new data bit.

15. The system of claim 11, wherein the main module is a global positioning system (GPS) module providing functionality for operation as a GPS receiver, the GPS module further responsive to  
25 a GPS satellite navigation signal.

16. The system of claim 11, further comprising a cellular base station, for providing the cellular communication signal

indicating a time-stamp.

17. A method, comprising the steps of:

a) receiving a cellular communication signal with a cellular module;

5 b) providing a trigger pulse derived from the data component of the cellular communication signal, and providing information relating the trigger pulse to time;

c) receiving the trigger pulse in a timing module component of a non-cellular module; and

10 d) resolving a value for time using the trigger pulse and the information relating the trigger pulse to time.

18. The method of claim 17, further comprising the step of having a frame counter generate the trigger pulse when the frame counter identifies a new frame in the cellular communication signal.  
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19. The method of claim 17, further comprising the step of having a time slot counter generate the trigger pulse when the time slot counter identifies a new time slot in the cellular communication signal.

20 20. The method of claim 17, further comprising the step of having a data bit counter generate the trigger pulse when the data bit counter identifies a new data bit in the cellular communication signal.

25 21. The method of claim 17, wherein the non-cellular module is a global positioning system (GPS) module, responsive to a GPS satellite navigation signal.

22. An apparatus, comprising:

a) a cellular module, for receiving a cellular communication signal, and for providing a trigger pulse derived from the data component of the cellular communication signal, and also for providing information relating the trigger pulse to time;

b) a timing module component of a non-cellular module for receiving the trigger pulse; and

c) means for receiving the information relating the trigger pulse to time and for resolving a value for time using the trigger pulse and the information relating the trigger pulse to time.

23. The apparatus of claim 22, further comprising a frame counter, and wherein the trigger pulse is provided when the frame counter indicates a new frame.

24. The apparatus of claim 22, further comprising a time slot counter, and wherein the trigger pulse is provided when the time slot counter indicates a new time slot.

25. The apparatus of claim 22, further comprising a data bit counter, and wherein the trigger pulse is provided when the data bit counter indicates a new data bit.

26. The apparatus of claim 22, wherein the non-cellular module is a global positioning system (GPS) module providing functionality for operation as a GPS receiver, the non-cellular module further responsive to a GPS satellite navigation signal.

27. A system comprising:

a) a cellular module, for receiving a cellular communication signal, and for providing a trigger pulse derived from the data component of the cellular communication signal, and also for providing information relating the trigger pulse to time;

5 b) a timing module component of a non-cellular module for receiving the trigger pulse;

c) means for receiving the information relating the trigger pulse to time and for resolving a value for time using the trigger pulse and the information relating the trigger pulse to  
10 time; and

d) a cellular base station, for providing the cellular communication signal.

28. The system of claim 27, wherein the non-cellular module is a  
15 global positioning system (GPS) module providing functionality for operation as a GPS receiver, the non-cellular module further responsive to a GPS satellite navigation signal.